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THE ROLE OF STATISTICAL INFORMATION IN NATIONAL INFORMATION SYSTEMS

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INTRODUCTION

At its third session, the Joint Conference of African Planners, Statisticians nd Demographers requested the ECA secretariat to ascertain the importance given to tatistical data in national information systems and the statistical organization roblems encountered in the region. The request was in line with the guidelines set rth in the Lagos Plan of Action (LPA).

This document has been prepared in response to that request. In order to better ighlight the importance accorded to statistical information in national information ystems, an attempt has first been made to identify the characteristics of such ystems where they are mainly geared to economic and social development and later to nderscore the contribution of statistics as an information system. Statistical rganization problems encountered in the region have been dealt with in this document n the basis of the use made of the statistical information system to monitor and valuate the implementation of LPA.

I. GENERAL CHARACTERISTICS OF NATIONAL INFORMATION SYSTEMS

Definition

The concept of an information system derives from that of information. Generally peaking, information is an abstract formulation that describes the state of an element hich can change with time. The current terminology refers to this as a datum. In- rmation therefore refers to an accumulated set of data concerning facts, people and on. Three main groups of data may be distinguished: socio-economic data; scientific nd technological data and natural resource data. All such data are expressed either n words (bibliographical data for example) or in figures. In the latter case, the otion "numerical" must be distinguished from the notion "statistical". To be ffectively used, such data are generally organized into systems, that is to say, tructurally coherent sets whose elements perform a function that depends on the ature of the information, the set objective, the existing or potential user and n types of decision.

Role

Information systems are set up to inform members of an organized society, ndividually or collectively, about the environment in which they operate, for urposes of information, control, forecasting and the like. In particular, the nformation systems used by the public authorities of a country generally have two bjectives: To support routine decisions taken in civil service administration. uch administrative or management information systems are made up of files, most often omputerized, established within such departments as the Inland Revenue, Social Security, ublic Health, Education, Public Works and Justice.

In carrying out their functions, these departments generate what is termed perational information: To support the making of decisions which play a role in conomic and social development. The fact is that without securing access to several ategories of information, solutions cannot be found to development problems. For xample, planning in the industrial sector requires data on manpower, natural resources, xisting industries, available technology, domestic and foreign market prices. imilarly, manpower policy-making requires information on population, the labour force, echnology and existing or proposed industries. Finally, planning for natural re- ources requires data on such factors as the resources themselves, existing or roposed industries, transport and manpower. An inter-relationship therefore exists etween the types of data needed to take decisions and the key areas of development, nd hence the information needed to take rational decisions for development should be

integrated into such information systems as those statistical information systems which are said to be geared to supplying data to the various agents in economic and social life.

Structure

6. Any information system needs four types of apparatus:

- an observation and measurement apparatus with which data on the physical and human environment can be collected. The main tools in such an apparatus are the methods whereby observation operations are programmed and the validity of the results guaranteed;

- an apparatus for analysis. One function of such an apparatus will be to produce data on the basis of other data. Three types of analysis may be distinguished. The first and most simple consists of elementary editing of data and their presentation in written form (lists, tables, graphics). The second type of analysis is descriptive statistics whereby data may be interpreted from a specialized and methodological point of view in terms of reliability, usefulness and other considerations. Finally, there is the use of models (statistical and simulation models) which aggregate data derived from statistical data bases to produce information that helps to size up, diagnose and forecast situations. Models rely on the relationships between variables;

- an apparatus for storing and circulating pooled information to decision-making bodies or to the general public. Such an apparatus draws especially on information science and data base technology;

- An "information on information" apparatus (a meta-information system) whereby users can be provided with the lay-out of the system content and the possibilities for its use. Such an apparatus is especially designed to accompany the quantified information by methodological observations in order to ensure that the information is correctly and properly used.

General conditions of information

7. For it to help in rationalizing decisions or simply to be useful, information should fulfil a certain number of conditions. It should be:

- relevant, that is to say, adapted to the needs of the user. This condition can be met by matching the supply of and demand for information more adequately by means of an on-going dialogue between information users and producers;

- timely, that is to say, available and accessible at the time when the decisions should be taken. Information loses its value when the time it was to be used is past. Outdated information serves no practical purpose.

- accurate, that is to say, reliable and precise. Information is supposed to reflect with sufficient precision the reality of the phenomenon it is supposed to describe. Accuracy of information can be secured through rigorous methods of data collection, control and documentation;

- comprehensive: one correct elementary measurement is not enough. The entire field over which the investigation must be carried out should be covered.

III. THE PLACE OF STATISTICAL INFORMATION IN NATIONAL INFORMATION SYSTEMS

8. As the above brief outline shows, information systems are made up of sets of data and processing modes that fulfil certain specific conditions and have the purpose of informing decision-making. Development-oriented information systems generally focus, both nationally and internationally, on socio-economic, scientific and technological or natural resource phenomena. However, socio-economic information systems happen to be the most widespread, the most developed and the most used, at least by Governments.

9. These are the systems that will be considered in this paper. They have two components: the bibliographical or documentary component and the statistical component. The statistical component has the higher priority because it best responds to the requirements for strategic as well as management decision-making. Collective or individual decisions, whether taken by public authorities, enterprises, local communities, lobbies and associations, or even households, should be enlightened by economic and social information which is largely quantified and expressed in statistical language. Since it applies to all areas of quantitative investigation, statistical information is a description of numerous phenomena or facts which rely on figures.

10. Such a description may concern one or more characteristics (qualitative or quantitative) of the phenomenon under consideration, in all their possible configurations. The units to which the information refers are made up of well-defined and specified sets that can be compared over time and space. In conformity with technical standards for data collection and processing, statistical information has to be reliable and accurate, comprehensive and relevant.

11. No wonder then that economic and social policy-makers and managing administrators depend to a very great extent on statistical information to solve problems and take decisions. Not only does statistical information make it possible to size up a given situation it also enables trends to be interpreted and estimates and projections to be made using advanced techniques in mathematical statistics. To show the importance of statistical data in any national development information system, it will suffice merely to consider the needs of Governments in this area. For a country to be economically viable, not to say prosperous, its government should have a detailed knowledge not only of the people it is serving but also of the agricultural, industrial, trade and other activities from which the people derive their livelihood. Statistical information is one way of securing such knowledge.

12. In particular, statistical information comes more significantly into play when a Government has to plan an economic growth policy and to monitor the effects. Decisions in this area are taken in several stages:

- definition of problems from an evaluation of the current situation;
- identification of development opportunities that will bring about changes in the current situation;
- cost-benefit analysis of the various options open;
- preparation of development proposals, strategies and programmes together with the setting of specified standards;
- systematic monitoring of programmes. All these stages presuppose that access has been secured to integrated statistical data, both aggregated and disaggregated.

13. To illustrate the point, statistical information required for opening up a land-locked region by means of an overland transport infrastructure may comprise:

- aggregate data on the break-down of the investment budget at national level;

- local, regional and national aggregate data for preparing the projects;

- regional and local aggregate data for selecting a project and individual data concerning the plots of land that will be considered in selecting the exact location;

- detailed information on the economic and physical situation of each plot at the time of construction.

14. All this goes to show that in working out problems and identifying opportunities for development, statistical aggregates and a certain amount of technological information are generally required. However, when some measure or series of measures has to be taken, such as the building of a road, school or industrial complex, the information needed tends to be less aggregated.

15. Statistical information is very important, if not fundamental, to the process of development. In order to effect desirable changes, decision-makers and planners set objectives often in the form of numbers based on a quantified rationale that is built up from statistical information. Nor can the monitoring and evaluation of programme implementation and assessment of the impact of programmes on the general development take place without statistical data inputs.

IV. USING THE AFRICAN STATISTICAL INFORMATION SYSTEM TO MONITOR AND EVALUATE THE IMPLEMENTATION OF THE LAGOS PLAN OF ACTION: ORGANIZATIONAL PROBLEMS

16. The Heads of State and Government who met in Lagos on 28 and 29 April 1980 adopted the Lagos Plan of Action and Final Act of Lagos as a framework for implementing the Monrovia Strategy for the development of Africa. The guidelines on which the Lagos Plan of Action is based are as follows:

(i) Africa's huge resources must be applied principally to meeting the needs and purposes of its people;

(ii) Africa's almost total reliance on the export of raw materials must change. Rather, Africa's development and growth must be based on a combination of Africa's considerable natural resources its entrepreneurial, managerial and technical resources and its markets (restructured and expanded), to serve its people. Africa, therefore, must map out its own strategy for development and must vigorously pursue its implementation;

(iii) Africa must cultivate the virtue of self-reliance. This is not to say that the continent should totally cut itself off from outside contributions. However, these outside contributions should only supplement its own efforts, they should not be the mainstay of its development;

(iv) As a consequence of the need for increased self-reliance, Africa must mobilize its entire human and material resources for its development;

(v) Each African State must pursue all-embracing economic, social and cultural activities which will mobilize the strength of the country as a whole and ensure that both the efforts put into and the benefits derived from development are equitably shared;

(vi) Efforts towards African economic integration must be pursued with renewed determination in order to create a continent-wide framework for much needed economic co-operation for development based on collective self-reliance.

17. The Final Act of Lagos is devoted exclusively to co-operation among member States and their integration in all economic, social and cultural fields. The Lagos Plan of Action explicitly identified the following as the fields of importance:

- Food and agriculture
- Industry
- Natural resources
- Human resources development and utilization
- Science and technology
- Transport and communications
- Trade and finance
- Measures to build up and strengthen economic and technical co-operation including creation of new institutions and strengthening of existing ones
- Environment and development
- The least-developed African countries
- Energy
- Women and development
- Development planning, statistics and population

18. Each of these areas comes under a number of objectives or directives that can be measured more or less directly in statistical terms. Since the LPA is currently being implemented, the task now is to monitor and systematically evaluate its implementation. Unquestionably, this is one essential point of the LPA. Indeed, the system for monitoring and evaluating the implementation of the Lagos Plan of Action and the Final Act of Lagos should be designed and formulated as an integral part of the economic and social development of African countries and applied as a continual process both nationally and internationally.

19. There are two main reasons for this: the first is the need to determine in what manner national development plans and programmes conform to the provisions of the LPA; the second is to ensure the continued collection of the necessary data. The LPA covers a very wide range of measurable variables that can be used to determine whether it is being implemented by the countries, and if not, why not(see list of

statistical data required for monitoring and evaluating the implementation of LPA annexed to document ST/ECA/PSD.2/5). Collecting all these data will obviously be a difficult undertaking for national statistical services in Africa. To take up this challenge, the statistical services will have to be reorganized along completely new lines taking into account the financial resources and skilled manpower at their disposal. Such a reorganization will have to cover not only the hierarchy of functions but also the apparatus of the statistical services.

Collection of statistical data

20. It is within the context of this function that survey, census or administratively filed data are collected and processed. So burdensome is the collection exercise that it would appear reasonable to try to take advantage of all collection activities conducted by public and private agencies alike. At the same time, the interface between these agencies will have to be organized and this brings in the idea of a network.

21. There seems to be no other way to collect statistical data than to do it in an integrated manner through a genuine national data-collection network drawing on two sources: the launching of appropriate surveys and information from administrative authorities. The nucleus of such a network would be the central bureau of statistics which would be provided with a survey unit having adequate equipment and specialists. The other elements of the network would be made up of ministries and public departments having statistical units that collect and circulate statistical information. This presupposes, however, that definitions, classifications and methods should be standardized in order to facilitate the establishment of an integrated statistical system which could be used not only to describe precise characteristics (absolute values) but also values grouped together as indicators of allied phenomena. The central bureau of statistics should play the role of promoter and director in this case.

Launching of appropriate surveys

22. Even though in-depth studies based on complete enumeration have great advantages, the disadvantages outweigh them when the studies are being conducted as a follow-up and evaluation exercise. The reason is that the scope of these studies makes them a burdensome exercise, and the results take a long time to prepare. Their usefulness for monitoring and evaluating a project is therefore fairly limited. This is why it becomes important, when statistical data have to be secured for monitoring and evaluating the implementation of the LPA, to resort to limited sample surveys based on a small correctly stratified sample and to resolve a set of methodological problems (the substance of the concept should reflect realities in Africa and be precise enough to be measured). Greater attention should be paid to the organization of surveys spaced out in time on the basis of eight-to-ten-year cycles, a certain percentage of variables from the area to being investigated by annual survey with a view to covering all the variables by the end of the cycle.

Administrative sources

23. In the current African context, the organization of a national statistical data collection network should be based on the principle of satisfying demand at relatively little cost through the use of inexpensive methods. First among such methods is the use of administrative sources, which in a number of cases provide information at a relatively modest marginal cost. The performance of certain administrative functions generates what is termed operational or management information.

24. In this regard, several kinds of systems (depending on the complexity of the function performed) can be distinguished. The degree to which these systems automatically generate such information varies depending on whether the systems have evolved from simple administrative functions or were developed to provide planning inputs. As an example of this, one need only recall that by securing the accounts and balance sheets of enterprises from the income tax department, specific surveys can be avoided, and that the essential data on health, education and housing can be secured from the public authorities. In any case, even if it is not yet fully harnessed, the potential of information coming from the public authorities should be further explored and statisticians should participate more systematically in the administration of management data in order to be more closely associated with the designing of files or in order to be able to modify concepts and definitions.

25. When drawing on administrative sources, statisticians should obviously make sure that the data provided are useful by ascertaining to what extent the data are up to date and accurate and whether the categories to which they relate correspond to those used in monitoring and evaluating the implementation of LPA.

Analysis and interpretation of statistical data

26. This is the function of the African statistical system which is least developed to date. In view of the demands that socio-economic decision-makers are making on the statistical system, data analysis and interpretation should receive greater attention on the part of national statistical services. Within the context of such analysis, data are interpreted from a descriptive point of view (descriptive statistical analysis and from a more specialized and mathematical point of view (explanatory statistical analysis). The first analyses data variable by variable and uses as the main instrument for measuring general trends such concepts as means, variants, medians, and ratios. The second considers the relationships between variables. Explanatory analysis can use more or less complex methods. The basic principle for establishing relationships is by association. However, association does not indicate a cause-effect relationship. This can be determined only with statistical, econometric and operational research techniques.

27. The data analysis should be as fast and efficient as possible, because incomplete or outdated data serve no useful purpose for decision-making. Since the basic data are collected when LPA is supposed to be in the process of implementation, descriptive analysis can be used to assess the degree of implementation by comparing results with set objectives. The outcome of such an analysis will determine what thrust should be given to the explicatory analysis.

28. From the standpoint of developing the analytical activities of national statistical offices, the widespread use of modern analytical methods is of primary importance. Two types of data processing services are particularly necessary for carrying out analyses:

(a) General programmes (general interfaced summing and statistical software)

(b) Simultaneous access to the data of several surveys (data banks).

Dissemination of data

29. Statistical information has no value unless it is received by the user. Dissemination is therefore an important function in the statistical information system. National bureau of statistics should devote the necessary resources in terms of manpower and equipment to this function. In this respect, the enquirer should be provided with just what information meets his needs out of a tremendous mass of information. To respond better to such enquiries, a statistical institute should be able to forecast the enquiries that will be addressed to it and constitute a corresponding stock of information classified in order to facilitate retrieval.

30. These problems can be solved by information science, which permits automation of publication systems and provides the means of setting up direct access macro-data banks and of transmitting statistical information stored on magnetic tape off-line. Communication of results is a crucial phase in the monitoring and evaluation process because it marks the time when research leads to decision-making. Users should be sufficiently familiar with the procedures and techniques of sample selection and the techniques of data collection and analysis in order to have some idea of the reliability and validity of the information secured.

Planning and control

31. While the planning of economic and social activities has become the rule almost everywhere in Africa, it is somewhat surprising to note that statistical activity in Africa is still divorced from planning. And yet, detailed and continual planning is essential in statistics because it makes for effective use of available resources and thereby strengthens capabilities and gives an orientation and purpose to the development of statistical activity. Given the serious shortage of skilled manpower and other resources in the field of statistics, it is particularly important for African countries to plan for the development of their statistical activities in order to secure maximum returns. New functions of planning and internal control should be instituted within national central bureau of statistics.

32. The main objective of such planning would be to institute a complete integrated system of socio-economic statistics which would provide appropriate and first-rate information for decision-making, analysis and research. It should be based on the use of methods for establishing priorities, the effective use of programmes and maximum exploitation of all available resources. It should include procedures for control and evaluation of progress being made towards objectives in any area of government service. The planning unit could also be asked to set standards, provide standard definitions for the collection of information, and periodically review the statistical activities of other agencies.

The programme co-ordination function

33. This function could be said to be externally located because it concerns the whole process of producing statistics in a country and requires the participation of various economic agents. In most African countries, the co-ordination of statistical activities is insignificant, not to say non-existent. Even where such co-ordination exists, it does not always function effectively. And yet co-ordination is of primary importance because it helps to:

(i) identify and evaluate statistical requirements at the national level and strike a compromise among the needs of various users;

(ii) adapt statistics to needs as and when they make themselves felt;

(iii) co-ordinate effectively the activities of the various national agencies and institutions collecting and disseminating statistical information, thereby avoiding duplication and harmonizing the statistics produced;

(iv) prepare a rational programme for the development of statistics at the national level and have such a programme incorporated in the national development plan;

(v) scrutinize and comment on budgets relating to statistical operations;

(vi) strike a balance between the various areas and work out the most effective means of collecting, analysing and presenting data;

(vii) ensure that the information available is used to best advantage.

34. The composition of a national co-ordinating committee obviously depends on the structure of each country but it would be advisable for it to include all the parties concerned: the various ministerial departments, representatives of business, trade unions, universities and researchers.

35. The work of the co-ordinating committee will be linked to that of the planning department. Indeed, there is every reason to ensure that the guidelines in the area of statistics conform to the decisions taken in social and economic affairs. To this end, several sub-committees drawing on the services of experts could be set up to consider specific problems.

V. CONCLUSIONS

36. In this study, an attempt has been made to underscore the importance of statistical information in the taking of political, economic and social decisions, and to describe the problems that national statistical services in Africa should solve in order to meet to the challenge. In order to be able to analyse the situation it is facing on the international scene, grasp recent trends and forecast coming trends, appreciate its strength and weaknesses in the economic and social fields, every Government is obliged to use statistics which constitute the State's store of knowledge.

37. For the national bureaux of statistics responsible for assembling this body of knowledge, the daunting problem they face is to know how and where to collect the data that must be accumulated for the needs of national communities. The answer to this question lies in the formulation of a strategy based on the principle of producing statistics along with methods for analysis, interpretation and dissemination that are geared to genuine needs.

38. In this regard:

(i) Priorities in statistics should derive from the major national economic and social priorities. Accordingly, a mechanism for consultation at the national level, invested with a measure of authority, should be instituted;

(ii) Much attention will have to be paid to the organization of the statistical system itself. A certain degree of decentralization in the substantive ministries will have to be adopted and put into effect, because this can promote the development of the statistical information system in certain areas and make for better implementation of decisions regarding sectoral priorities;

(iii) Basic mechanisms will have to be instituted for collecting data in the selected areas of concern at reduced cost. In this regard:

- the traditional methods must be reviewed because of the substantial costs involved and a shift made towards more specific and more intensive operations which will give high quality data. Given the fact that random sampling involves high costs to ensure representativity, recourse will have to be made to the use of voluntary samples which are sufficiently close to random samples;

- administrative data bases comprising a more complete description of the units and using more variables for statistical purposes will have to be established. It is essential for this purpose on the one hand, to involve the statistician sufficiently early in the process of constituting such data bases and on the other hand, to accord priority to information science in statistical system and re-structure the whole process of producing statistics into one global data bank which will cover all the functions in a homogeneous manner.

(iv) In order to secure good figures, the greatest care will have to be taken in specifying the concepts and definitions on the basis of which data are collected. In this area, co-operation between statisticians and economists will have to be instituted and strengthened.

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A REVIEW OF STATISTICAL ORGANISATION AND STAFFING PROBLEMS IN AFRICA, INCLUDING AN ASSESSMENT OF THE EFFECTIVENESS OF NATIONAL STATISTICAL SERVICES

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I. Introduction

1. The purpose of this paper is to describe some of the problems of statistical organisation and staffing in African national statistical services (NSS) and also to assess the effectiveness of African statistical services. A regional survey of statistical organisation and staffing was conducted by ECA in 1985 covering all national statistical offices in African countries. Previous studies on statistical organisation and staffing were conducted by ECA during 1965, 1974, 1976, and 1981.

2. The results of the 1985 survey showed a low response from the countries of the region when compared to the 1981 survey as can be seen in Table 1. The coverage in the 1985 survey was lowest in North Africa where only one country responded and was highest in Central Africa.

3. It should be recalled that the results of the 1981 survey were discussed in a working group on statistical organisation and manpower which was held in ECA, Addis Ababa in October 1981. Detailed results of the 1981 survey will be found in document ST/ECA/STPS/WG1/1.

4. In this paper we shall discuss the problems of statistical organisation and staffing in the NSS in the context of organisational location, structure, staff position and seconded staff of the NSS, censuses and surveys undertaken and those planned to be undertaken, data applications, dissemination of information, assessing the effectiveness of the NSS, institutional arrangements and data processing. Our discussion will refer to the results of the 1985 survey.

II. Organisational Location of the NSS

5. The location of the national statistical office within the government structure differs from country to country depending on certain priorities attached to statistics by the governments. In some countries such priorities are determined by the Ministry of Planning or the Office of the President/Prime minister.

6. The results of the 1985 survey (see Table 2) showed that 55 per cent of the NSS were located in the Ministry of Planning while 41 per cent were located in the ministries dealing with planning and other operations i.e. Ministry of Planning and Industry. The Ministry of Planning and Finance had 9 per cent of the NSS located to it and only 4 per cent continued to be under the Office of the President/ Prime Minister. In total 96 per cent of the NSS were located in ministries dealing with planning.

7. It can be argued that attachment to the Ministry of Planning has a number of advantages namely closer working relationship with the main users and the possibility of the statistical service securing an adequate share of the government budget. It can also be argued that such an attachment has the disadvantage of affecting the degree of independence of the NSS in supplying data to other sectors of the economy.

III. The Structure of the NSS

8. The structure of the NSS depends to a large extent on the work programme of the national statistical office. The structure generally varies from country to country because of the variety of arrangements adopted by the countries. The structure of the NSS as observed in the 1985 survey is given in Tables 3 and 4. This structure is found to be similar to that observed in the 1981 survey.

9. The results of the survey (see Table 3) showed that none of the subjects/functions appeared in all the structures of the NSS of the countries of the region. Only the demographic and social statistics function appeared in the majority (95 per cent) of the organizational units of the NSS, the rest of the subjects/functions appeared in the structures of only some of the countries.

10. The survey identified a number of substantive organizational units in each service and also those units which are usually referred to as common services. The results of this classification (see Table 4) clearly indicated that some statistical offices regarded Data Processing, Documentation and Publication, Administration, Field Organisation and Demographic and Social Statistics as common services.

IV. Staff Position and Seconded Staff of the NSS

11. It should be noted that in the 1985 survey, the one country which responded from North Africa did not provide its staff position data including information on seconded staff. The analysis therefore is based on West, Central, and Eastern/Southern Africa data.

12. The results of the study are shown in Tables 5 and 6. These show that 20.5 per cent of the total staff in the countries of the region are professional, statistical and Electronic Data Processing (EDP). If only professional statistical staff are considered, then the proportion reduces to 13.6 per cent. Of the total staff employed there were 18.5 per cent nationals of the countries who were professional statisticians and EDP staff. If the EDP staff are excluded there were 11.0 per cent nationals of the countries who were professional statisticians.

13. In comparison with the results of the 1981 survey where 12 per cent of the staff were reported to be professionals, the number of professionals in the Africa region was clearly increasing. The total vacancy situation in relation to the total number of posts in the countries of the region was 9.5 per cent. This vacancy situation was highest in the Eastern/Southern Africa sub-region and lowest in the West African sub-region.

14. On seconded staff from the NSS to other statistical agencies/units, these represented 4.3 per cent of the total staff employed in the NSS. Considering seconded staff only there were 42.7 per cent professionals while 57.3 per cent were middle level staff. The West Africa sub-region had the highest proportion of seconded staff (57.2 per cent) while the Central African sub-region had the lowest proportion (20.8 per cent) of seconded staff.

15. It should be noted that solutions to the staffing problems of the NSS are one of the prerequisites for the proper implementation of their work programmes. Questions on how to attract good staff into the service while at the same time reducing the brain drain problems have to be addressed. The secondment of staff to other statistical agencies/units in the countries is another issue to be considered. Qualified and capable staff are normally the ones who are seconded to other agencies/units. This is because such staff need to work independently with minimal help from the head office. Secondment of less qualified staff to other statistical agencies/units merely adds more problems to the statistical service in that the statistical work produced by the units may not be of the right quality.

V. Censuses and Surveys Undertaken and Planned

16. In the survey, information was obtained on the censuses and surveys undertaken in the past five years and also those planned to be undertaken in the next five years. The results of the survey are in Tables 7 and 8.

17. The results of the survey showed that most of the countries conducted the following censuses and surveys in the past 5 years: Population, Income, Consumption and Expenditure, Agricultural Production and Industrial Production. Most of these censuses and surveys had been conducted by the NSS although in a few cases they had been conducted by other agencies/units. It should be noted that one country in North Africa reported to have conducted censuses and surveys in the fields of Civil Registration (annually), Job skills (annually), Production prices (quarterly), Consumption prices (monthly) and Industrial production (annually). It is the belief of the secretariat that other countries in the sub-region also conducted some of these censuses or surveys and perhaps considered them more of a routine data collection exercises than properly designed surveys. Such countries may only have reported national household surveys and not surveys using units of inquiry other than the household.

18. The censuses and surveys planned to be undertaken in the next five years by most of the countries included the following: Population, Income, Consumption and Expenditure, Labour Force/Employment and Agriculture. The majority of the censuses and surveys were planned to be conducted by the NSS and only a small number by other agencies/units. One country in North Africa plans to conduct censuses and surveys in the following fields: Labour Force/Employment (annually), Industrial Production (annually), Civil Registration (annually), Production Prices (quarterly), Consumption Prices (quarterly) and Training (annually).

19. Issues which normally arise concern the implementation of planned activities which sometimes are affected by changes in the priorities of the government and also by lack of resources to undertake the censuses or surveys. The planned activities need therefore to be discussed by the producer/user committee, if it exists or if such a committee does not exist, the statistical office should inform and discuss such planned activities with the Ministry responsible for statistics to ensure that the majority of the requirements have been taken into account. An examination of why a particular activity was not undertaken at the end of the planned period is always useful so that lessons can be learnt on how to formulate future plans taking into account all the variations which could occur.

VI. Data Applications

20. In the survey NSS were requested to indicate the actual uses of data from censuses and surveys undertaken in the countries of the region during the past 10 years. The summary description of the wide range of applications reported in the survey is given in Table 9 and the applications are given by type of census or survey. Some of the countries had been reported to have as many as ten actual applications while others were reported to have only one.

21. It is clear from the results of the survey that particular applications appeared to be special for certain types of censuses or surveys e.g. national accounts application appeared against Household Income and Expenditure, Agriculture and Industrial censuses and surveys. Such a result is perhaps expected since national accounts summarises basic economic statistics from various sources in order to build up the specific components of the accounts.

22. The applications reported in the surveys could be regarded as the minimum list because these were the country applications known to the NSS. Other applications which were not known to the statistical offices, due to various reasons were not listed in the survey. It should be mentioned that some of the applications appeared rather vague for example descriptions of applications such as planning, research, economic and social. Statistical offices should generally try to obtain a clear description of the uses of a census or survey particularly when planning such enquiries so that they can design questionnaires which lead to the collection of the intended data. The relevance of user/producer committees in the determination of data applications before data are actually collected cannot be over-emphasised.

VII Dissemination of Information

23. The dissemination of information was considered in the survey in terms of statistical publications, in so far as their nature and frequency. The results of the survey are presented in Table 10. A total of 138 publications were reported to be published by the statistical offices either as regular publications or not. The majority of the publications were released annually (49 per cent) while other publications were released as ad hoc (17 per cent), quarterly (14 per cent), monthly (7 per cent) and decennially (6 per cent) and the remaining publications comprised 7 per cent of the total. On other means of disseminating statistical information which the statistical offices used, mention was made of computer tapes and print outs, seminars and workshops and use of publications in other ministries to publish statistical information. The data dissemination policies of many NSS were not clear from the replies to the inquiry.

24. The results of the survey showed that the statistical bulletin/Abstract/Yearbook/ Digest/Review were more frequently published by the statistical offices. These were followed by publications on demographic and social statistics financial and economic accounts and prices, household budget and consumption in that order. The remaining publications were not usually published frequently.

25. The timeliness of publications was not examined in this survey. It should be noted however that statistical offices have had and continue to face problems of timeliness in their publications. Some of the offices are taking steps to correct this situation by acquiring their own off-set printing machines so that some of their publications can be printed on these machines. Other problems which statistical offices may face even after acquiring the printing machines may be lack of paper, lack of qualified manpower to service and run these machines etc. It is expected that the statistical offices will take the necessary steps to train staff to run and repair the printing machines and also ensure adequate budgetary provision for the purchase of printing paper and other accessories which may be needed to ensure the smooth running of the printing machines.

VIII Assessing the effectiveness of NSS

26. Although the survey was not directly aimed at assessing the effectiveness of national statistical services, information was gathered on problems affecting the performance of NSS. Such information supplemented by reports of missions to individual countries of a number of African countries make it possible for a rough assessment of the effectiveness of NSS in carrying out their functions to be made.

27. The performance of the NSS could be affected by several problems. In the survey a list of problems which could arise were provided but statistical offices were free to specify other additional problems which affect their performance. At the same time statistical offices were requested to rank the problems in the order of their seriousness. The results of the survey are given in tables 11 and 12.

28. A list of ten types of problems were provided by the statistical offices. Of the ten, the problem of "budget" was considered to be the most serious by the majority of the statistical offices. The problem of "staffing" came second in terms of seriousness. In particular, statistical offices indicated the problems of insufficient number of posts, difficulties in attracting qualified personnel, poor conditions of service and high staff turnover to be affecting their performance. Other problems which were listed but were considered less serious were administrative set up, managerial capability, data processing and printing equipment, insufficient number of vehicles for field work etc.

29. The ranking of the problems affecting the NSS in the order of their seriousness clearly showed the problem of budget as the most serious followed by the problem of staffing. The problems of staffing were: difficulties in attracting qualified personnel, high staff turnover and poor conditions of service. Of the other problems, managerial capability, data processing facilities and printing equipment, insufficient number of vehicles, problems faced with data furnishing ministries/agencies and lack of external finance to undertake big operations were all listed by some statistical offices to be of high priority.

30. In the view of the ECA Statistics Division, management of national statistical offices is probably the most important factor contributing to the poor performance of NSS. It is true that there are serious problems relating to the budget and staffing, but these problems notwithstanding more could have been done with the resources made available to most statistical offices. There is need for the management of NSS to be strengthened and for detailed work programme budgets to be prepared, indicating final outputs to be delivered, when they are to be delivered and what

resources are needed to deliver them. If resources requested are not provided, the work programme has to be amended to take into account the resources actually given. The final work programme budget should then provide the basis for judging the performance of the national statistical service.

31. The preparation of work programme budgets will require the services of a statistical planner. Once the programme has been established, a monitoring mechanism should be set in place in the Director's office. Deviations from delivery dates of outputs etc. should be justified. If NSS adopt such an approach, their Governments will be in a better position to assess their effectiveness and thus determine whether additional resources are needed to produce additional outputs.

IX. Institutional arrangements

32. Statistical offices in the countries tend to have different institutional arrangements for determining or monitoring their work. These are usually in the form of a statistical Board/committee, producer-user committee etc. In the survey, NSS were asked to indicate the types of arrangement which they have in their countries. If they do not have a formal producer-user committee, they were asked to explain how they exchange views with other producers and users of statistics.

33. Result of the survey are given in Table 13 and clearly showed that only 36 per cent of the NSS in the countries had a statistical Board/committee. None of the countries had a producer-user committee and the rest of the countries had other arrangements. In terms of exchange of views with other producers and users of statistics the countries indicated that they had means like seminars and workshops, consultations with users when required to do so and formal and informal contacts with producers and users of data.

X. Data processing

34. With the availability of computers both main frame and micros in African countries, national statistical offices have managed to computerise at least some of their operations particularly those relating to large scale sample surveys and censuses. There are however areas of statistics whose data continue to be manually processed. In the survey an attempt was made to determine areas where data were still manually processed. The results of the survey are shown in Table 14.

35. It is clear from the results of the survey that although the areas listed were said to be still manually processed, this is true of some countries only and that others may be processing the data by computer even though preliminary operations are done manually. Among the areas reported to be still manually processed, the majority of the countries listed price statistics. Other areas which though not so significant were manually processed are agriculture, industrial, transport, tourism, vital, motor vehicle registration and accidents, civil aviation, finance and national accounts.

36. Problems of data processing in most African countries arise from the maintenance of the hardware, lack of appropriate software for existing hardware and shortage of programming staff. It can be argued that for certain statistics i.e. administrative statistics, etc it may be quicker to process the data manually than by the computer. This is particularly so when the volume of data is small. Statistical offices must pay more attention to the training of personnel for the computer hardware and also its maintenance in future in order to ensure a smooth operation of processing surveys and censuses. The manual tabulation of certain statistics in national statistical offices will continue to be used for sometime to come.

XI. Conclusion

37. The paper has summarised the main results of the 1985 regional survey of statistical organisation and staffing. A rough assessment of the effectiveness of the NSS in carrying out their functions has been made. Problems relating to organisational location, structure, staffing, censuses and surveys, data applications, dissemination of information etc. have been discussed in the paper.

38. Participants to the joint conference are invited to:

(a) Comment on the results of the regional survey,

(b) Suggest additional topics for inclusion in future surveys,

(c) Suggest ways of solving some of the problems highlighted in the paper, and

(d) Finally, propose steps which would ensure that Governments appreciate the effectiveness of national statistical services.

Table 1. Replies to the 1981 and 1985 regional survey of statistical organisation and staffing

Sub-region	Number of Countries in the sub-region	Replies Received			
		1981		1985	
		No.	%	No.	%
North	6	3	50	1	17
West	16	10	63	6	38
Central	10	6	60	8	80
Eastern/Southern	19*	13	68	7	37
TOTAL	51	32	63	22	43

* Zanzibar and Mainland Tanzania treated separately.

Table 2. Location of the NSS

Location	Sub-region				
	North	West	Central	Eastern/ Southern	Total
- Ministry of Planning	-	2	6	4	12
- Ministry of Finance and Planning	-	1	-	1	2
- Office of the President/ Prime Minister	-	-	-	1	1
- Ministry of Planning and other	1	3	2	1	7
Number of reporting countries	1	6	8	7	22

Table 3. Structure of the NSS

Subject or Function	Number of countries in the sub-region				
	North	West	Central	Eastern/ Southern	Total
- Agricultural production	-	1	1	2	4
- Industrial production	-	1	-	1	2
- External trade	-	1	1	-	2
- National accounts	-	2	5	3	10
- Economic & financial	1	6	4	1	12
- Labour (Empl. & Earn.)	-	-	-	3	3
- Trade, Transport and Tourism	-	2	1	3	6
- Prices	-	-	1	3	4
- Demographic & Social	1	6	7	7	21
- Methods & Standards	-	3	-	-	3
- Electronic Data Processing (EDP)	1	1	2	2	6
- Documentation and Publication	1	4	5	2	13
- Administrative	-	6	2	5	13
- Field Organisation	-	2	5	3	10
- General Statistics	-	2	4	-	6
- Regional Offices	1	4	3	2	10
No. of reporting countries	1	6	8	7	22

Table 4. Number of countries classifying Divisions/Sections

Subject or Function	Classification		Total
	Substantive	Common Services	
- Agricultural Production	4	-	4
- Industrial Production	2	-	2
- External Trade	2	-	2
- National Accounts	10	-	10
- Economic & Financial	12	-	12
- Labour (Empl. & Earn.)	3	-	3
- Trade, Transport and Tourism	6	-	6
- Prices	4	-	4
- Demographic & Social	20	1	21
- Methods & Standards	3	-	3
- Electronic Data Processing (EDP)	5	1	6
- Documentation & Publication	3	10	13
- Administrative	5	8	13
- Field Organisation	9	1	10
- General Statistics	6	-	6

Table 5. Staff position in NSS

Staff position	NORTH					WEST			
	Staff in post					Staff in post			
	Nationals	Others		Vacancies	Totals	Nationals	Others		Vac
		Tech. Ass.	Govt.				Tech. Ass.	Govt.	
a. Head office									
a) Statistical personnel									
Professionals	-	-	-	-	-	110	9	1	2
Middle level	-	-	-	-	-	145	-	-	-
Clerks/Enumerators	-	-	-	-	-	93	-	-	3
b) Electronic data processing personnel									
Professionals	-	-	-	-	-	[illegible]	[illegible]	-	-
Others	-	-	-	-	-	18	-	-	-
c) Supporting staff									
Administrative	-	-	-	-	-	85	-	-	1
General services	-	-	-	-	-	42	-	-	2
b. Regional/District offices									
a) Statistical personnel									
Professionals	-	-	-	-	-	8	-	-	-
Middle level	-	-	-	-	-	27	-	-	-
Clerks/Enumerators	-	-	-	-	-	48	-	-	-
b) Electronic data processing personnel									
Professionals	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-
c) Supporting staff									
Administrative	-	-	-	-	-	18	-	-	
General service	-	-	-	-	-	-	-	-	
TOTALS	-	-	-	-	-	688	12	1	
Number of reporting countries			1					6	

ER OF PERSONS IN THE SUB-REGION

	CENTRAL						EASTERN/SOUTHERN						TOTAL				
	Staff in post						Staff in post						Staff in post				
an-s	Totals	Nationals	Others Tech. Ass.	Others Govt.	Vacancies	Totals	Nationals	Others Tech. Ass.	Others Govt.	Vacancies	Totals	Nationals	Others Tech. Ass.	Others Govt.	Vacancies	Totals
	122	86	14	1	5	106	64	7	6	41	118	260	30	8	48	346
	145	159	-	1	4	164	133	1	-	45	179	437	1	1	49	488
	96	198	-	-	8	206	291	-	-	60	351	582	-	-	71	653
	97	95	3	-	-	41	18	1	1	8	28	150	7	1	8	166
	16	56	-	1	1	58	121	-	-	25	146	195	-	1	26	222
	88	74	-	1	-	75	4	2	-	-	6	163	2	1	1	167
	44	97	-	-	-	97	56	-	-	3	59	195	-	-	5	200
	8	5	-	-	-	5	-	-	-	-	-	13	-	-	-	13
	27	40	-	-	2	42	3	-	-	31	34	70	-	-	33	103
	48	61	-	-	-	61	-	-	-	-	-	109	-	-	-	109
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	18	18	-	-	-	18	-	-	-	-	-	36	-	-	-	36
	-	27	-	-	-	27	-	-	-	-	-	27	-	-	-	27
8	709	859	17	4	20	900	690	11	7	213	921	2237	40	12	241	2530
				8					7					22		

Table 6. Number of NSS staff seconded to other Statistical Agencies/Units

Agency/ Unit	Sub-Region: North Proff. level	North Middle level	North Total	West Proff. level	West Middle level	West Total	Central Proff. level	Central Middle level	Central Total	Eastern/Southern Proff. level	Eastern/Southern Middle level	Eastern/Southern Total	Total Proff. level	Total Middle level	Total Total
- Labour & Employment	-	-	-	1	1	2	1	-	1	-	-	-	2	1	3
- Public Health & Population	-	-	-	2	6	8	1	12	13	3	1	4	6	19	25
- Education	-	-	-	-	2	2	1	-	1	1	-	1	2	2	4
- Agric., Livestock & Fisheries	-	-	-	4	5	9	1	3	4	1	1	2	6	9	15
- Finance & Trade	-	-	-	4	3	7	-	2	2	-	4	4	4	9	13
- Planning	-	-	-	6	9	15	1	1	2	4	1	5	11	11	22
- Mines & Industries	-	-	-	-	-	-	-	-	-	3	-	3	3	-	3
- Scientific Research	-	-	-	-	-	-	-	-	-	1	1	2	1	1	2
- Population, Youth & Sports	-	-	-	-	-	-	-	-	-	1	-	1	1	-	1
- Transport	-	-	-	-	-	-	-	-	-	2	2	4	-	2	2
- Central Bank	-	-	-	1	-	1	-	-	-	-	-	-	1	-	1
- Others	-	-	-	10	9	19	-	-	-	-	-	-	10	9	19
Total	-	-	-	28	35	63	5	18	23	14	10	24	47	63	110
No. of Reporting countries	1			6			3			7			22		

Table 7. Censuses or surveys undertaken in the past 5 years

Censuses and Surveys	Sub-region and Agency/Unit responsible								
	North		West		Central		Eastern/ Southern		Total
	NSS	Other	NSS	Other	NSS	Other	NSS	Other	
1. Population	-	-	2	-	5	-	4	1	12
2. Income, Consumption & Expenditure	-	-	3	-	3	-	5	2	13
3. Labour Force/ Employment	-	-	-	-	-	-	3	-	3
4. Health	-	-	1	-	-	-	-	-	1
5. Food and Nutrition	-	-	-	-	1	-	-	-	1
6. Agricultural Production	-	-	-	-	2	1	3	-	6
7. Industrial Production[1/]	3	-	-	-	2	-	-	-	5
8. Fertility	-	-	1	-	1	-	-	-	2
9. Tourist expenditure	-	-	-	-	-	-	-	1	1
10. Civil Registration[1/]	5	-	-	-	-	-	1	-	6
11. Job skills[1/]	5	-	-	-	-	-	-	-	5
12. Production prices[2/]	20	-	-	-	-	-	-	-	20
13. Consumption prices	60[3/]	-	-	-	1	-	-	-	60
14. Commercial, Industrial and other Services	-	-	2	-	-	-	-	-	2
15. Infant Mortality	-	-	3	-	-	-	-	-	3
16. Transport	-	-	1	-	-	-	-	-	1
17. Others	-	-	3	-	3	-	-	1	7
TOTAL	93	-	16	-	18	-	16	5	148
No. of reporting countries	1		6		8			7	22

1/ Annually

2/ Quarterly

3/ Monthly

Table 8. Censuses or surveys planned for the next 5 years

Censuses and Surveys	Sub-region and Agency/Unit responsible								
	North		West		Central		Eastern/ Southern		
	NSS	Other	NSS	Other	NSS	Other	NSS	Other	Total
1. Population	1	-	3	-	5	-	4	1	14
2. Income, Consumption and Expenditure	1	-	2	-	3	-	4	-	10
3. Labour Force/ Employment	5 1/	-	1	-	1	1	1	-	9
4. Agriculture	-	-	-	-	1	1	2	2	6
5. Industrial prod.	5 1/	-	1	-	2	-	-	-	8
6. Economic Data	-	-	-	-	-	-	1	-	1
7. Fertility & Mortality	-	-	1	-	-	-	1	-	2
8. Civil Registration	5 1/	-	-	-	-	-	-	-	5
9. Trade & Services	1	-	2	-	-	-	-	-	3
10. Production prices	20 2/	-	-	-	-	-	-	-	20
11. Production	20 2/	-	-	-	-	-	-	-	20
12. Consumption prices	60 3/	-	-	-	-	-	-	-	60
13. Training	5 1/	-	-	-	-	-	-	-	5
14. Informal sector study	-	-	1	-	-	-	-	-	1
15. Price study	-	-	1	-	1	-	-	-	2
16. Household	-	-	1	-	1	-	-	-	2
17. Fertility & Contraception	-	-	1	-	-	-	-	-	1
Total	123	-	14	-	14	2	13	3	169
No. of reporting countries	1		6		8		7		22

1/ Annually

2/ Quarterly

3/ Monthly

Table 9. Data applications in the past ten years

Type of Census/ Survey	Uses of Data	Sub-region				
		North	West	Central	Eastern/ Southern	Total
1. Household income & exp. survey	- Construction of CPI/RPI	-	-	1	2	3
	- Estimation of private consumption exp. in National Accounts	-	-	-	2	2
	- Nutritional analysis	-	-	-	2	2
	- Survey of food habits	-	-	-	1	1
	- Economic & Social Studies	-	-	-	1	1
	- National Accounts	-	-	1	-	1
	- Planning & Development	-	-	-	2	2
2. Population and Housing	- Planning & Policy	-	3	4	6	13
	- Delineation of constituencies	-	-	-	1	1
	- Projection	-	1	1	1	3
	- Research	-	1	-	2	3
	- Sampling Frame	-	2	1	1	4
	- Population estimates for new regions	-	-	-	1	1
	- Socio-Economic Indicators	-	-	-	4	4
	- Demographic Studies	-	1	-	-	1
	- Population, Employment & Food Production	-	-	1	-	1
	- Vaccination programme	-	-	1	1	1
3. Census of Economic Activities	- Computation of Economic Indicators (GDP)	-	-	-	1	1
	- Construction of the I/O tables	-	-	-	1	1
4. Agriculture Censuses & Surveys	- Information planning	-	-	-	1	1
	- Formulation of policy	-	-	-	1	1
	- Research	-	-	-	1	1
	- National Accounts	-	-	-	1	1
	- Estimation of Input to Agric. & Production	-	-	-	1	1

Table 9 (cont'd)

Type of Census/ Survey	Uses of Data	North	West	Central	Eastern/ Southern	Total
5. Tourism exp. survey	- Estimation of tourist expenditure	-	-	-	1	1
6. Labour/Employment survey	- Economic studies	-	-	-	1	1
7. Industrial, Commerce & Services	- Planning	-	-	1	1	2
	- Economic Accounts	-	1	1	-	2
	- Research	-	1	-	-	1
8. Fishing	- Research	-	-	1	-	1
9. Fertility	- Development Planning	-	1	1	-	2
	- Projection	-	-	1	-	1
10. Socio-Demographic & budget	- Planning	-	-	1	-	1
	- Price index	-	-	1	-	1
11. Informal Sector	- Research	-	1	-	-	1
12. Socio-Economic	- Urban Planning	-	-	1	-	1
Number of reporting countries		1	6	8	7	22

Table 10. Nature & frequency of publications in the sub-region

Nature and frequency	Number of publications in the sub-region				
	North	West	Central	Eastern/ Southern	Total
1. Statistical Bulletin/Abstract/Yearbook/ Digest/Review etc.					
Monthly	-	1	4	1	6
Quarterly	1	4	5	3	13
Bi-annually	-	1	-	-	1
Annually	2	4	5	4	15
Quinquennially	-	-	1	-	1
Ad hoc	-	-	1	1	2
2. Financial & other Economic Accounts					
Quarterly	-	1	-	-	1
Annually	-	4	5	6	15
Ad hoc	-	-	2	-	2
3. Prices, Household Budget and Consumption etc.					
Monthly	-	3	1	-	4
Quarterly	-	1	1	-	2
Annually	-	-	1	1	2
Ad hoc	-	1	-	3	4
4. Labour & Employment					
Biannually	-	-	-	1	1
Annually	1	-	-	1	2
Ad hoc	-	-	-	1	1
5. Transport & Communication					
Annually	-	-	-	2	2
6. Agriculture, Forestry & Fisheries					
Annually	-	-	1	2	3

Table 10 (cont'd)

Nature and frequency	North	West	Central	Eastern/ Southern	Total
7. Population & Demography					
Annually	1	-	1	1	3
Decenially	-	3	-	3	6
Ad hoc	-	5	3	1	9
8. Social Conditions					
Ad hoc	-	-	2	1	3
9. Tourism & International Migration					
Annually	-	-	-	2	2
Ad hoc	-	1	-	1	2
10. External Trade					
Quarterly	-	1	1	-	2
Annually	-	3	2	4	9
11. Medical Statistics					
Annually	-	-	2	1	3
12. Education Statistics					
Annually	-	-	1	2	3
13. Country Profile					
Biannually	-	-	-	1	1
Annually	-	-	-	1	1
Ad hoc	-	-	-	1	1
14. Vehicle Registration					
Annually	1	-	1	1	3
15. Commerce, Industry & Services Enterp. survey					
Annually	-	1	-	-	1
16. Index of Industrial prod. survey/census					
Quarterly	-	1	-	-	1
Annually	-	-	1	3	4
17. Special surveys	-	2	1	2	5
No. of reporting countries	1	6	8	7	22

Table 11. Problems affecting the performance of NSS

Problems	Sub-region				
	North	West	Central	Eastern/ Western	Total
1. Budget	-	4	3	6	18
2. Staffing					
i) Insufficient no. of posts	-	2	6	5	13
ii) High staff turnover	-	3	3	2	8
iii) Poor conditions of service	-	2	5	4	11
iv) Difficulty in attracting qualified personnel	-	4	6	3	13
v) Accommodation	-	-	-	1	1
vi) Insufficient motivation	-	-	-	1	1
vii) Lack of trained statistical workers and programmers	-	-	1	1	2
3. Administrative set up	-	3	2	2	7
4. Managerial capability	-	2	1	1	4
5. Data Processing facilities & printing equipment	-	-	-	2	2
6. Insufficient number of vehicles for field work	-	-	1	1	2
7. Lack of understanding (or appreciation) of the importance of statistics by users	-	-	-	1	1
8. Problem faced with data furnishing ministries/agencies	-	-	1	-	1
9. Lack of all types of materials	-	-	1	-	1
10. Lack of external finance to undertake big operations	-	-	1	-	1
No. of reporting countries	1	6	3	7	22

Table 12. Rank of problems affecting the performance of NSS

Problems	Rank 1	2	3	4	5	6	7	Not stated	Total
1. Budget	6	4	7	-	-	-	-	1	22
2. Staffing									
i) Insufficient no. of posts	6	4	2	-	1	-	-	9	22
ii) High staff turnover	5	1	-	-	1	1	-	14	22
iii) Poor conditions of service	4	4	-	1	1	-	1	11	22
iv) Difficulty in attracting qualified personnel	7	5	1	1	1	-	-	9	22
v) Accommodation	1	-	-	-	-	-	-	21	22
vi) Insufficient motivation	-	-	1	-	-	-	-	21	22
vii) Lack of trained statistical workers & programmers	1	1	-	-	-	-	-	20	22
3. Administrative set up	-	3	3	-	1	-	-	15	22
4. Managerial capability	1	-	-	3	-	-	-	18	22
5. Data Processing facilities and printing equipment	1	1	-	-	-	-	-	20	22
6. Insufficient no. of vehicles for field work	2	-	-	-	-	-	-	20	22
7. Lack of understanding (or appreciation) of the importance of statistics by users	-	-	-	1	-	-	-	21	22
8. Problems faced with data furnishing ministries/agencies	1	-	-	-	-	-	-	21	22
9. Lack of all types of material									
10. Lack of external finance to undertake big operations	1	-	1	-	-	-	-	20	22

Table 13. Institutional arrangement by region

Type of arrangement	Sub-region				Total
	North	West	Central	Eastern/ Southern	
- Statistical Board/ Committee	1	3	2	2	8
- Producer-user committee	-	-	-	-	-
- Other	-	3	6	5	14
No. of reporting countries	1	6	8	7	22

Table 14. Statistical areas which are still manually processed by sub-region

Areas whose data are still manually processed	Sub-region				Total
	North	West	Central	Eastern/ Southern	
1. Agricultural statistics	-	-	3	4	7
2. Industrial statistics	-	-	4	6	10
3. Price statistics	-	4	4	4	12
4. Transport statistics	-	-	3	3	6
5. Tourism statistics	-	-	3	3	6
6. Vital statistics	-	-	5	4	9
7. Motor vehicle registration and accidents	-	1	3	4	8
8. Civil aviation statistics	-	-	3	4	7
9. Financial statistics	-	2	3	3	8
10. National account statistics	-	2	3	2	7
11. External trade statistics	-	-	2	2	4
12. Family planning statistics	-	-	-	4	4
13. Social statistics	-	1	4	4	9
No. of reporting countries	1	6	8	7	22

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THE ESTABLISHMENT OF AN AFRICAN LIST OF STATISTICAL PRIORITIES

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Introduction

1. The subject of the setting and implementing of statistical priorities has been discussed at length at various meetings and a number of publications has been issued to reflect the outcome of the discussions. However, the recent food and economic crises have once more demonstrated the great dearth of statistical data for plan and project formulation, appraisal, implementation and monitoring. Implicit in the recommendations for Africa's economic recovery embodied in the Lagos Plan of Action and Final Act of Lagos was a wide range of statistical information required for monitoring performance in implementing these recommendations. These are reflected in the document on "The place of statistical information in the national information system" E/ECA/PSD.4/16. Unfortunately, the relevant data were not available in many countries and even where they were available they were either too outdated to be useful or the technical expertise for the appropriate use in the countries was lacking.

2. In this paper therefore a fresh look at African Statistical priorities, both in their setting and implementation, is being taken with a view to providing basic guidelines. Since conditions in the various member States of the region differ significantly, each country will have to adapt the guidelines to suit its own situation.

The role of National Statistical Services (NSS)

3. In order to examine the issue in-depth, it is necessary to consider what the role of a national statistical service should be. Briefly, the functions of NSS are three-fold:

(a) To provide the various arms of government with the necessary statistical data required for plan and programme preparation, appraisal, implementation and monitoring. This implies also data required by the government for policy formulation, research and administration. This function should not be interpreted narrowly to refer only to the data requirements of the Ministry of Planning. It applies also to the data needs of sectoral ministries and other government bodies including the parastatals.

(b) To supply the data requirements of other national non-governmental organisations, including the private business sector and non-governmental research institutes.

(c) To provide international organisations, inter-governmental or otherwise, with relevant statistical data for their use.

4. The functions outlined above are ranked from highest to the lowest priority. It is essentially the primary role of NSS to meet their governments' data requirements. All other functions are secondary to this task. However, the importance of the other functions should not be minimised. If the private sector's data requirements are met, there is an indirect contribution to the government, since the proper performance of the private sector has financial advantages for the government.

5. It should be stressed here that for the first two functions discussed above, national needs should determine the concepts, definitions and classifications. However, it should be noted that the usefulness of data for national purposes is generally enhanced if such data can be compared with similar data from other countries. The third function of the statistical office in providing data to international organizations implies therefore that an attempt should be made to apply internationally comparable concepts, definitions and classifications. The competing claims of national needs and international requirements need not therefore be mutually exclusive.

6. The issue of the role of African statistical offices is considered further in "The role of African statistical services in the implementation of the Lagos Plan of Action" E/ECA/PSD.4/15.

Scope of statistics

7. There is now a great diversity in the field of statistics not only in the subjects covered but also in the types of statisticians now working. The Report of the International Statistical Institute Committee on the Integration of Statistics identified fifteen principal categories of statisticians:

(a) Academic (including university, college, school);

(b) Business (including actuarial, marketing, economic, econometric);

(c) Government (including federal, state, local, municipal);

(d) Industrial (including operations researcher, quality controller, reliability worker, physical, engineering transport);

(e) Practitioner (including applied, data analyst);

(f) Research (including applied, methodological, theoretical, mathematical, probabilist);

(g) Student ;

(h) Biometric (including ecological, agricultural, forestry);

(i) Medical (including biostatistician, health, epidemiologist, pharmaceutical);

(j) Social (including demographic, political, judicial, criminal, behavioural, psychological);

(k) Administrator (including manager, policy former, planner, forecaster, auditor);

(l) Consulting;

(m) Computational (including manager, policy former, planner, forecaster, auditor);

(n) Survey (including pollster);

(o) Other (including sports, numerologist).

8. This diversity of statisticians reflects directly or indirectly the wide variety of statistics now available. This paper will however concern itself with a subset of this vast area, namely the field of official statistics. Even within this broad category, only the statistics produced by national statistical offices in the region will be considered. These include demographic and social statistics as well as statistics on prices, external transactions, public sector, international trade, distribution, industry, energy, food and agricuture, transport and communications, environment, natural resources, employment, education and health. In addition there are derived statistics such as national accounts.

9. How does a national statistical office establish priorities with respect to subject coverage? How does the office select priorities within the areas selected? How does it select priorities with respect to the sources of data for example, administrative records vis-a-vise censuses and surveys? An attempt will be made to answer some of these questions in the following paragraphs. A previous list of priorities established for small countries will also be examined before a new list of priorities is established.

Priority Setting

10. In the paper prepared for the Seminar on Setting and Implementing of Statistical Priorities (Munich Centre for Advanced Training in Applied Statistics for Developing Countries, 6-25 August, 1979), Sir Claus Moser makes it quite "clear that decisions on priorities relate to many different kinds of choices". He lists the following types of choices; infrastructure versus immediate improvements, statistical systems versus specific series, subject matter balance, new versus old, accuracy versus timeliness versus detail, stages of the statistical process, special collection versus by-products, censuses and surveys, macro versus micro data. The list is by no means exhaustive but it does illustrate the different kinds of choices about which decisions have to be made.

11. In arriving at these decisions, there are several approaches which can be used. A few are easily identifiable: Cost-benefit analysis, feasibility, cost-effectiveness. None of these is easily applicable to the African situation due to the great dearth of data, the competing claims of different users and the question of who has the responsibility for deciding statistical priorities. This responsibility has by tradition devolved on the central statistical office. What has generally occurred is that the programmes inherited from the time when expatriates were in charge of statistical offices have tended to be continued without necessarily determining whether in the circumstances of today such programmes are suitable. Only in a few countries have user-producer committees been established to determine the content of statistical programmes and the priorities which should be attached to the programme elements.

12. The problem of priority setting has become urgent now because of the present African economic crisis with its resulting shortages of resources. It has become necessary for national statistical development plans to be prepared within the over-all development plans of the country. Such plans should reflect the implicit priorities in these overall plans. The approach which ECA has been promoting in recent years is for a medium-term (5 years) statistical development plan to be drawn up setting out the objectives, problems to be drawn, strategies to be followed and the scope of

activities to be implemented. After approval of the plan, annual or biennial work programme budgets should be prepared indicating clearly the subprogrammes, the programme elements and the outputs expected to be delivered during the period, under each programme element. In addition, each programme element should have a priority attached to it, from highest to lowest. The resources such as professional work-months, travel funds required to implement the programme should also be indicated. This will enable to Government in approving the budget to decide what programme elements and outputs to retain. In the event of subsequent cuts in the budget, adjustments to the work programme should also be made. This enables the Government to realise the consequences of shortfalls in budgetary provision. ECA in the following years will be providing assistance in this area of statistical planning which it regards as one of the unmet needs of the African region.

The Old List of African Statistical Priorities

13. In a paper presented to a Seminar on the Organization of a Statistical Service, Mr. W.L. Booker, then Chief of the ECA Statistics Division discussed the "Special problems of small statistical offices" and concluded by suggesting the following order of priorities for such countries:

External trade statistics
Demographic data
Household sector statistics
Prices
Establishment statistics (industry and employment)
Agriculture (depending on responsibility for these data)
Derived statistics (national accounts and balance of payments).

Although this tentative order of priorities was established in respect of small countries, it seems to conform to the order established in most African countries until recently. The priorities were not established on the basis of the relative importance of the subjects for national development but rather of the ease or feasibility of producing useful data in the short-term in these areas. Other criteria for priority setting would have resulted in a different order of priorities.

The Current List of African Statistical Priorities

14. In a recent survey of African national statistical services, the following results were obtained from the 22 countries which completed the questionnaires:

Table 1. Rank Order of Statistical Priorities

Statistical Fields	Ranks 1	2	3	Not stated	Total
(a) External Trade	16	3	-	1	22
(b) Demographic	19	2	1	-	22
(c) Household sector	9	11	2	-	22
(d) Establishment (industry and employment)	13	7	1	1	22
(e) Derived (such as national accounts and balance of payments)	18	2	2	-	22
(f) Agriculture	12	7	1	2	22
(g) Transport	3	12	6	1	22
(h) Price	17	4	-	1	22
(i) Social	3	14	2	3	22
(j) Communications	-	13	7	2	22
(k) Education	6	11	3	2	22
(l) Environment	-	7	13	2	22
(m) Health	7	10	3	2	22

Rank 1 means highest priority while 3 means lowest priority.

15. If scaling is applied to the above ranking whereby 1 (highest priority) gets a score of 3, 2 (normal priority) gets 2 and 1 (lowest priority) gets 1, the resulting order of priorities from highest to lowest is as follows:

Rank	Field of statistics	Score
1	Demographic	62
2	Derived statistics (national accounts, balance of payments)	60
3	Prices	59
4	External trade	58
5	Establishment (industry, employment)	55
6	Agriculture	51

Rank	Field of statistics	Score
6	Household sector	51
8	Health	44
9	Education	43
10	Social	41
11	Transport	39
12	Communications	33
13	Environment	27

16. It is not very clear from the above picture which criteria were used by the countries to arrive at their priorities but there are a few surprising aspects for example, food and agriculture which is regarded as the number 1 priority by African Heads of State and Government is ranked only sixth on this list. Derived statistics (e.g. national accounts and balance of payments) which depend on other basic economic statistics for their compilation is given priority above those data.

17, A plausible explanation for this may be that the national statistical offices were giving priority to frameworks over basic statistics. The frameworks are supposed to identify data needs which in turn will determine the types of data to be collected. At the tenth Commonwealth Statisticians Conference held in Oxford, England from 31 July to 9 August, 1985, a session was devoted to the topic "Statistics for Development Frameworks versus Social and Economic Indicators and Basic Statistics". The conclusion of the meeting is summarised in the following quotation from the draft report.

> "The derivation of appropriate statistics for development was seen by the Conference as a matter of exercising choices within the statistician's market and deciding on an appropriate mixture of frameworks, indicators and basic statistics. The Conference agreed that it was rarely a question of using the framework approach as an alternative to compiling basic statistics and that a planned programme incorporating both was generally desirable.
>
> The importance of developing good basic statistics before devoting attention to the construction of frameworks was mentioned by a number of countries. The Conference was told that the compilation of national accounts enjoyed a high priority and made claims on scarce resources in some countries even when the basic data for completing the accounts were poor or non-existent. Such a situation was seen as a premature indulgence in frameworks which undervalues basic statistics".

18. The problems of environment which had been highlighted by the recent drought and the widespread desertification gets the lowest priority. Although the countries which responded to the questionnaire cannot be taken as representative of all the countries of Africa, their answers emphasise a point which has been made by most users of statistical data namely that African statistical offices generally do not produce the types of data required for planning and other purposes. There is need for the evaluation of the role of each national statistical office to revitalise their functions vis-a-vis the needs of government.

A new list of African statistical priorities

19. In examining practical sectoral measures to be taken for the accelerated attainment of the objectives of the Lagos Plan of Action and the Final Act of Lagos, the Assembly of African Heads of State and Governemnt at its twenty-first ordinary session held in Addis Ababa, Ethiopia from 13-20 July, 1985, identified appropriate and practical measures which had to be taken in certain priority sectors. These sectors were food and agriculture, industry, human resources, transport and communications, trade and finance, environment, energy, women and development and population and development. Although no order of priority was implied in the above listing, it was obvious from the discussions that the Heads of State and Government attached the highest priority to food and agriculture.

20. The secretariat has attempted to relate the discussions of the summit, the Lagos Plan of Action and the Final Act of Lagos to the areas (subject-fields) requiring priority attention. The order of priority as given below may not reflect the priorities in all countries of the region but it is important to point out that a regional list of this nature will need to be adapted to suit national conditions and that in that exercise the producers and major users of statistical data should have joint responsibility for determining priorities.

21. The African list of statistical priorities in relation to subject-fields is as follows:

1. Food and agriculture
2. Population
3. Industry
4. Trasnport and communications
5. Trade (international and domestic), finance and prices
6. Energy
7. Household sector
8. Derived statistics (national accounts and balance of payments, life cycle profiles, satellite accounts etc.)
9. Health
10. Education
11. Labour force (employment, unemployment, under-employment)
12. Human resources
13. Social conditions, with emphasis on women, children, youth, the aged and the disabled)
14. Environment
15. Natural resources
16. Science and technology
17. Tourism

22. The above priority list is based solely on the importance of the subject. Priorities based on other criteria have not been considered.

Implementation

23. For the statistical office to implement its priorities effectively, it requires good management and leadership, adequate resources, an organizational structure which allows for easy implementation of work programmes and satisfactory conditions of service for all its staff.

24. The issue of preparing work programme budgets has already been addressed. In addition there should be established mechanisms for both internal and external monitoring and evaluation of the programme. For internal monitoring, the Director of the national statistical office or a unit operating directly under him should be charged with the responsibility for the continuous monitoring of the implementation of the work programme. Reasons for any departures from output delivery dates should always be given.

25. In addition to internal monitoring and evaluation, there should also be an external component of this activity. The unit to do this should be an independent unit set up by Government preferably within the Ministry of Planning or Finance. In either case, the unit should liaise closely with the Government auditors to make sure that resources have been used as programmed.

Conclusion

26. The paper has discussed briefly the criteria for priority setting, an African list of statistical priorities and the implementation of priorities. Emphasis has been placed on internal and external evaluation with links to auditing of the use of resources. It is the contention that National Statistical Services have to take the whole issue of priority setting more seriously and have to involve other producers and users of statistics in determining priorities; otherwise the gap between production and usage of statistics will expand.

27. It is also to be noted that statistical data which are not used are not worth producing. The use of statistical data for decision-making, planning and research should be re-examined before establishing and implementing priorities.

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TOWARDS SELF-RELIANCE IN THE DEVELOPMENT OF STATISTICAL MANPOWER

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I. INTRODUCTION

1. Before the 1960's African statistical services were subsidiaries of the colonial countries' statistical offices, and their main objective was to collect statistical data in specific fields and feed them back to the metropolis for processing and analysis. They thus served as executing, rather than planning and decision-making, services. Accordingly, the staff employed in them immediately following independence comprised essentially operational agents, most of them trained on the job.

2. From the beginning of the 1960s, the African countries which had recently attained independence began to give thought to ways of obtaining the numerical data required in order to launch their national economies. The first session of the Conference of African Statisticians, held in 1959, discussed the issue at length, and acknowledged that emphasis should be placed on training for operational staff.

3. The need for more detailed statistical data very rapidly made itself felt, with the result that African countries came to see statistics as a separate discipline and to recognize the need for the establishment of special institutions to train statisticians in Africa.

II. SITUATION OF STATISTICAL STAFF IN THE AFRICAN REGION FROM INDEPENDENCE UP TO 1977

4. The shortage of statistical staff and the rapid turnover of qualified statisticians in African statistical services constituted one of the main topics of discussion at the Second Conference of African Statisticians, held at Tunis from 26 June to 7 July 1961.

5. In English-speaking Africa south of the Sahara, it is only fairly recently that statistics has come to be viewed as a separate discipline. People wishing to specialize in pure statistics had to be transferred from the local universities to the London School of Economics in the United Kingdom or to similar institutions. It should also be pointed out that, at the time, African Governments saw little reason for employing statisticians as such. This attitude stemmed from the fact that the Government authorities did not yet perceive the usefulness of statistics as a fundamental tool in drawing up national development policies. The staff employed in statistical services at the beginning of the 1960s comprised for the most part operational agents and clerks, and it was difficult for the few qualified professionals to claim treatment on a par with other staff with the same level of qualifications working in other administrative sectors. The result was a constant turnover of qualified staff in the statistical services in countries where the conditions of employment did not prove sufficiently attractive.

6. In terms of training, it was only towards the end of the 1960s and the beginning of the 1970s that the need for specialized institutions to train English-speaking African statisticians made itself felt. There was a long wait from the establishment of the first African statistical institutes designed for training middle-level staff (in Ghana in 1961, in Ethiopia in 1962 and in the United Republic of Tanzania in 1965) until 1969, when the first higher-level regional institute, the Institute of Statistics and Applied Economics (ISAE) at Makerere University in Uganda, was set up. The Institute's purpose was to offer the facilities required for training professional staff in statistics and applied economics in order to meet the urgent

needs of Uganda and the other East African countries, as well as certain other English-speaking African countries, with regard to the formulation and implementation of national economic and social development plans. Subsequently, other universities in the region, such as those of Ghana, Ibadan, Botswana, Lesotho, Swaziland and Dar-es-Salaam, established statistical departments for professional training in statistics.

7. The statistical services of the French-speaking African countries also suffered from the same problems of shortage and rapid turnover of statistical staff immediately following independence. In addition, the regidity of the rules in the public service ministries and the scant interest in statistics shown by Governments gave the operational staff of the national statistical services no grounds for aspiring to any advancement whatsoever. The few professional statisticians, trained in Paris before 1960 at the Ecole Nationale de la statistique et de l'administration économique (ENSAE), were for the most part recruited, as soon as they returned from training, into sectors other than the statistical services.

8. It should, however, be noted that the French-speaking (and also the Arabic-speaking) African countries demonstrated an earlier interest in the training of professional and middle-level statisticians than did the English-speaking African countries. Two middle level training centres became operational in 1961, at Abidjan and Yaounde. At the same time, a professional training centre came into being at Rabat. Facilities for training professional staff were established a year later, in 1962, at Paris by the European Economic Community (EEC) in collaboration with the French Government, and in 1970 at Algiers. In 1967 and 1976 respectively, the Abidjan and Yaounde centres in turn instituted professional training courses. Established in 1966 to train middle-level Senegalese staff, the centre at Dakar began in 1975 to offer professional courses not only for Senegalese nationals, but also for students from the Sahelian countries. The"ingenieur des travaux statistiues" division of CESD, Paris, was transferred to Kigali in 1976.

9. The Portuguese-speaking African countries, namely Cape Verde, Guinea Bissau, Sao Tome and Principe, Angola and Mozambique, attained political independence only in 1975. Essentially, they are thus young countries. Unfortunately, they had not benefited from any facilities in the statistical field. Up to 1975, national statistical services were practically non-existent. There were only the delegations of the Portuguese National Statistical Institute in each country, responsible for collecting statistical data on the spot and sending them back to Lisbon for processing and analysis. After 1975, the ministries responsible for economic and social development planning felt the urgent need for certain immediate statistical data, and set up with varying degrees of haste statistical services staffed by more or less inexperienced personnel without adequate training in statistics.

10. In view of the educational system and the handicap of the language of instruction, it was difficult for the countries of this group to send their nationals for training at the statistical institutes in the English-speaking and French-speaking African countries. Up to 1977, moreover, the national authorities were barely aware of how statistics could benefit the economic and social development of their countries.

Angola was the first country in the group to open a national middle-level training centre, at Lubango in Huila province in February 1979. Unfortunately, this centre was closed a few years later because of the situation prevailing in that sub-region.

11. In short, despite the fact the training programme adopted by the Conference of African Statisticians at its second session in 1961 had largely attained its initial objectives, the staffing situation of most national statistical services in the African region was still less than satisfactory in 1977, the year in which the tenth session of the Conference of African Statisticians was held. This situation led the Conference to adopt a comprehensive programme entitled "Statistical Training Programme for Africa " (STPA) which was formally instituted by resolution 9 ECO (XVIII) of the ECA Executive Committee at its eighteenth session held at Khartoum (Republic of the Sudan) in 1978.

III. STPA AS AN INSTRUMENT FOR ATTAINING SELF-SUFFICIENCY IN STATISTICAL MANPOWER

1. Main ideas which led to the birth of STPA

12. Three main ideas led to the birth of STPA. First, it was noted that African statistical services continued to experience a gradual loss of qualified staff who drifted to other parastatal and private sectors and even to other more developed countries. In addition, the existing training facilities in the region were under-utilized due to lack of information on the courses offered, the conditions of admission and available finances. Finally, it was found that most of the training courses, particularly those offered by universities, tended to be too academic.

13. These three ideas led the Conference of African Statisticians, at its ninth session held at Lome (Togo) in 1975, to insist on the establishment of a long-term programme for the training of African statisticians and to recommend the convening of a working group to consider Africa's statistical training needs. The working group met in August 1977 and, at the conclusion of its work, proposed to the Conference of African Statisticians the institution of the STPA programme.

2. Objectives of STPA

14. The main objective of STPA is to ensure that the African region has a permanent supply of qualified statistical staff for statistics departments and other State departments as well as for the private sector. In other words, it is necessary to take into consideration each country's global need for statistical staff and to ensure that the private and the public sectors have a reasonable share of the trained personnel.

15. Transfers to other posts in the public or the private sector within the same country are not regarded as a loss to that country. An effort must nevertheless be made to provide the statistical services with sufficient numbers of specialists so that they can discharge their duties of collecting, processing and analysing the data required to draw up and implement economic and social development plans.

16. To meet this objective, STPA was originally conceived as a ten-year programme aimed at ensuring Africa's self-sufficiency by:

- increasing the number of trained statisticians'
- improving and maintaining the quality of the serving statistical staff.

17. To this end, the STPA programme made provision for support to training centres so as to :

- improve their efficiency and output;
- reorient their teaching programmes with a view to making them more practical, while at the same time maintaining a good trained level; and
- ensure that they became self-sufficient.

3. Establishment of the organizational structures of STPA

18. To facilitate the conduct of STPA, the Conference of African Statisticians assigned the role of co-ordinating and directing the programme's regional machinery to ECA. A work programme for the regional component financed by the United Nations Development Programme (UNDP) was established. The staff to provide the operational support needed for the conduct of the programme were recruited. At the outset, the staff comprised a Chief Statistical Training Adviser, a Statistical Training Adviser and administrative support staff. For financial reasons, the Chief Adviser post was subsequently abolished and replaced by a second Statistical Training Adviser post.

19. At the outset, 12 training centres were selected to participate in the STPA programme. Three additional centres were subsequently admitted, bringing the present number of training centres participating in STPA to a total of 15. The two essential criteria for selection of the centres were the international character of the services offered and the practical orientation of the instruction programmes, latently needs of national statistical services.

20. Since the centres participating in the programme were to devote a major portion of their activities to basic training, they could not alone meet the pressing and growing needs of the countries in the region in respect of refresher courses and specialized training. Efforts were therefore made to identify what are known as STPA associate centres. The identification criteria are the following:

(i) organization on a regular basis of a short refresher and/or specialized training courses for serving statisticians;

(ii) adaptation of course programmes to the problems of developing countries;

(iii) participation in these courses of a significant number of candidates from Africa;

(iv) establishment of links with the STPA centres.

21. Five centres meeting the above criteria were accepted as STPA associate centres - The Munich Centre for Advanced Training in Applied Statistics, the Institute of Development Studies (IDS), University of Sussex (United Kingdom), the Applied Statistics Research Institute, University of Kent, Canterbury (United Kingdom), the Institute of Social Studies (ISS), the Hague (Netherlands) and the International Statistical Programme Centre (ISPC), United States Bureau of the Census, Washington. The fourth meeting of Directors of centres participating in the STPA held at Addis Ababa from 4 to 8 November 1985, has just accepted a sixth associate centre, the Department of Statistics of the University of Newcastle-upon-Tyne (United Kingdom).

4. Evaluation of the activities carried out within the framework of STPA

22. At the fourth meeting of Directors of centres participating in the Statistical Training Programme for Africa, the ECA Statistics Division conducted an internal evaluation of the activities carried out in the context of the STPA programme.

23. The first component of the evaluation dealt with the results obtained by the STPA centres from the establishment of the programme in 1978 up to 1985. It was concluded that the centres have made significant progress, but that the objective set had not been fully attained, in quantitative terms, in that it has not been possible to meet the needs in full, particularly where higher-level statisticians for English-speaking countries and middle-level staff for French-speaking countries are concerned.

24. The second evaluation component covered actions relating to (i) dissemination of information on statistical training activities, (ii) maintenance of equivalence of curricula and qualifications and review and practical reorientation of the teaching programmes, (iii) in-service and middle-level training programmes, (iv) organization of short courses and seminars by the STPA centres and associate centres, (v) training of trainers and (vi) co-ordination of the whole range of the programme's activities.

25. Where the dissemination of information on training activities is concerned, a number of regular publications have been in existence since the establishment of STPA. These are the "STPA News", the Directory of STPA centres and associate centres and the Directory of centres not participating in STPA. To enable ECA to discharge fully its role in co-ordinating the Programme's activities, it must be pointed out yet again that the STPA centres and associate centres, as well as national statistical services, should submit all information relating to their statistical training activities in a regular and timely manner, and should make known their comments and suggestions on the way in which STPA publications should be presented, their content and the type of supplementary information they would wish to see included.

26. With regard to the review and practical reorientation of instruction programmes, ECA has since 1981 drawn up four guide syllabuses within the framework of STPA:

- Separate guide syllabuses for the training of middle-level in statistical staff for the French-speaking centres and the English-speaking centres (published in May 1982);

- Guide syllabus for in-service statistical training (preliminary level, first and second stages), 1983;

- Guide syllabus for in-service statistical training for Portuguese-speaking African countries (Portuguese language), 1983;

- Separate guide syllabuses for professional statistical training for the English-speaking centres and the French-speaking centres, 1985.

27. The use of these various guide syllabuses as general frameworks for revising the different teaching programmes of the STPA centres and national statistical services should permit not only a practical reorientation, but also some degree of harmonization, of these programmes.

28. It is unfortunately too early to assess the impact of the use of these various guide syllabuses on training facilities in the African region. Indeed, the following problems with regard to the use of the guide syllabuses are still encountered in some of the STPA centres:

- lack of qualified personnel;
- non-availability of adequate financial resources;
- non-availability of suitable teaching material.

29. It should be noted that the guide syllabuses for professional statistical training have just been adopted by the fourth meeting of Directors of STPA centres. They are submitted for consideration and adoption to the Joint Conference of African Planners, Statisticians and Demographers, whose report will be submitted to the forthcoming ECA Conference of Ministers. Once the syllabuses have been adopted by these various bodies, follow-up measures will be instituted with a view to inducing the centres which specialize in training African professional statisticians to adopt the recommended syllabuses to their specific requirements.

30. In general, the use made of the various teaching programmes drawn up within the framework of STPA depends on the efforts of African statistical training centres to convince national authorities of the importance of a practical reorientation, and some degree of harmonization, of programmes for the teaching of statistics in Africa.

31. Where training of teaching staff is concerned, it should be pointed out that 18 fellowships have to date being granted under the regional component of STPA to train trainers for the centres participating in the programme. The fourth meeting of Directors of STPA centres expressed the wish that this area should receive particular emphasis in the future work programme of STPA and that allowance should be made for the different circumstances of each statistical training centre. The need was also underlined to place the accent on post-graduate training, including specialization, which could also contribute to the training of trainers.

32. The situation with regard to the institution and/or improvement of in-service training programmes or national training programmes for middle-level staff has undergone marked change over the past few years. In view of the extent of the needs, a number of countries in the region have made efforts to apply the recommendation regarding the establishment, to the extent possible, of national level training facilities for middle-level statistical personnel. It is reassuring to note that the countries which have recently opened such training facilities have drawn their inspiration essentially from the standard programmes of intermediate or on-the-job training drawn up within the framework of STPA.

33. Action has also been taken in the context of the special project for Portuguese-speaking African countries. In particular, a study has been conducted to assess the statistical training needs of the countries in this group, a consultant has been sent to Sao Tome and Principe and Guinea Bissau to assist their officials in organizing middle-level in-service training programmes, and a project description has been drawn up for the financing of an in-service statistical training programme in Mozambique.

34. The activities of the STPA centres in organizing short courses and seminars for serving statisticians field have been extremely limited, particularly because of the lack of financial resources. The STPA associate centres, on the other hand, have fully discharged the role assigned to them under the programme. In future, the STPA centres should make an effort to include the financing of some seminars in their annual budget. ECA, for its part, should support these centres in seeking external financing for the organization of courses and seminars.

35. In the context of assistance by bilateral and multilateral aid bodies, reference should be made to, inter alia, the implementation of the project "Assistance of the European Economic Community (EEC) to STPA". It should be recalled that at their meeting held in October 1979, the Directors of STPA centres put forward a recommendation that the ACP secretariat and ACP countries in the African region, were requested to:

i) "Negotiate with EEC for the establishment of a regional fund for statistical training fellowships;

ii) Accord highest priority in their negotiations to the provision of resource staff for the STPA centres and the expansion of facilities where necessary".

36. This recommendation was first considered by the Joint Conference of African Planners, Statisticians and Demographers in March 1980, and subsequently endorsed by the ECA Conference of Ministers in the form of a resolution. Thereafter, the Council of Ministers of the African, Caribbean and Pacific countries (ACP) submitted to the Commission of the European Communities, on behalf of all the African countries, a request aimed at obtaining financial support from EEC for STPA under the regional component of the European Development Fund (EDF). The Commission's initial response was to finance a joint EEC/ACP/ECA study on the statistical training needs in Africa with a view to identifying the different priority areas of assistance. Following the study, a first financial package of 1,025 units of account was released from the balance under the Lome II Convention for the project "EEC assistance to STPA". EEC would be prepared to release additional funds under the Lome Convention if the African countries requested them.

37. It should be pointed out that apart from this regional assistance project, EEC has also contributed to financing, from regional funds, the construction of premises for the STPA training centres at Kigali and Abidjan, and has financed training fellowships under its country programmes. A number of other bilateral/multilateral donors, such as the French Government, the Overseas Development Administration of the United Kingdom, the Swedish International Development Authority (SIDA), the United States Agency for International Development (US/AID) and the Commonwealth Fund for Technical Co-operation (CFTC) are also participating in the programme by providing statistical training fellowships, sending instructors and consultants for the various STPA centres and financing teaching equipment.

IV. CORRECTIVE MEASURES AND COMPLEMENTARY ACTION TO ENSURE SELF-SUFFICIENCY IN STATISTICAL MANPOWER

38. Since its implementation was initiated in 1978, STPA has made significant progress towards its objective of making the African region self-sufficient in qualified statistical staff. However, the seven years for which STPA has been in existence have not sufficed for full attainment of the objectives set, partly because of the evolving nature of the needs in this area. Moreover, problems remain unresolved at certain points in the system which has been established, inter alia with respect to fellowships for courses at centres, limited accommodation facilities at the centres, harmonization of levels of training, etc.

39. The fourth meeting of the Directors of STPA centres had lengthy discussions on this subject, and adopted a future work programme which takes account of the corrective measures and supplementary actions to be undertaken to ensure Africa's self-sufficiency in qualified statistical personnel. Prior to that meeting, a tripartite review of STPA financed by UNDP and executed by ECA was organized at Addis Ababa in October 1985. During the tripartite review, certain areas of activity were singled out for priority in the continuation of the STPA programme, and these were taken into account by the meeting of the Directors of STPA centres in drawing up the programme of work which is submitted for the approval of the present Joint Conference.

40. The problem of non-availability of fellowships in sufficient number at the country level for courses at the statistical training centres was discussed at length at the fourth STPA Directors' meeting. In this respect, those in charge of national statistical services need to make the national authorities more aware of the usefulness of statistics by generating the data needed for economic and social planning in a regular and timely manner. Other activities design to promote awareness should also be conducted at the same time so that the national authorities can reserve a sufficient number of fellowships for statistical training, financed from national resources, indicative planning figures or country programmes agreed upon with donor organizations.

41. Furthermore, in order to meet the need for training of middle-level statisticians which is apparent in a good number of African countries, emphasis has been placed in the future work programme on increased assistance to countries wishing to establish and/or strengthen national training facilities for this category of the staff. Likewise, the African countries which are organizing or planning to organize in-service training programmes for junior staff should also receive particular attention. It has been recognized that assistance to countries in this field should not lose sight of the concern to harmonize teaching programmes on the basis of the general framework afforded by the guide syllabuses for middle-level and in-service training drawn up under STPA, so that staff trained can acquire a more or less comparable level of qualifications.

42. Generally speaking, periodic review of the guide syllabuses drawn up for the training centres and the national statistical services engaged in training activities in the African region is strongly desirable, in order to permit regular updating of the syllabuses.

43. Because they are so far behind in instituting an effective training system for their statistical personnel, the Portuguese-speaking African countries should receive particular attention within the project for special assistance to them, particularly as regards middle-level personnel. In this respect, apart from the organization and/or strengthening of in-service training programmes for each of the countries in the group, emphasis should be placed on establishing:

(a) A joint unit to train middle-level staff for Guinea Bissau, Cape Verde, Sao Tome and Principe and perhaps Equatorial Guinea;

(b) National units for training middle-level staff in Mozambique and Angola.

44. Where the training of professional statisticians for this group of countries is concerned, the proposal of the fourth meeting of Directors of STPA centres in which centres such as ENSEA at Abidjan, IAMSEA at Kigali and ISSEA at Yaounde were requested to study the possibility of admitting nationals from the countries of the group should be actively followed up, drawing on the experience in this respect of the College of Statistics at Dakar.

45. The development of post-graduate training and specialized training occupies a priority place in the future work programme of STPA. In this connection it should be noted that, apart from IFORD and RIPS, which offer specialization courses in demography, few of the STPA centres provide courses for specialization in a specific area of applied statistics. Such specialization courses are, as of now, given by centres outside the African region. The STPA centres therefore need to give consideration to introducing into their teaching programmes specialized courses in fields such as national accounts, agricultural statistics, sample surveys and electronic data processing. In addition, efforts should be directed towards the transfer, within five years at the most, of the "division ingénieur statisticien économiste" of the European Centre for Advanced Training in Statistics and Economics for Developing Countries (CESD), Paris, to the Abidjan and Yaounde centres in addition to the existing facilities for training at this level at the Rabat and Algiers centres.

46. The expansion of the training centres' activities will be accompanied by a parallel expansion of the activities for the training of trainers in conformity with the future work programme of STPA, allowance being made for the circumstances of each centre without losing sight of the aspirations and interests of the individuals undergoing such training. At the same time, improvements in the conditions of recruitment and employment of the instructors would be required in order to give them greater interest in their work.

47. Moreover, the recruitment of short-term consultants to give certain specialized courses at the STPA centres should increasingly be effected on the basis of technical co-operation among developing countries.

48. Finally, the periodic dissemination of information on training activities will continue to constitute one of the primary co-ordinating functions of the ECA Statistics Division. The success of this operation will depend on the regularity and quality of the information provided by the STPA centres and associate centres as well as by the national statistical services.

V. CONCLUSIONS AND RECOMMENDATIONS

49. It may be concluded that, although a shortage of statistical personnel was apparent in national statistical services immediately following independence in the African countries, efforts were made to enable those services to function to the best of their ability and collect the minimum statistical data needed in order to draw up the first economic and social development plans. The establishment of the Statistical Training Programme for Africa (STPA) made it possible to co-ordinate these efforts more effectively in order to make the African region self-reliant in the development of the statistical manpower it needs.

50. After the seven years for which the programme has been in operation, the internal evaluation of STPA has shown that the objective set has not been fully attained, although significant progress has been achieved. Co-ordination of training activities is now effective at the level of the centres and associate centres participating in STPA. Guide syllabuses for statistical training have been drawn up to provide a general framework for the reorientation of the centres' teaching programmes. Use of these guide syllabuses will make it possible to give the teaching a much more practical content.

51. Nevertheless, problems still remain. The work programme adopted by the fourth meeting of Directors of STPA centres seeks to provide solutions to these problems. The inadequacy of the number of fellowships for study at the centres, their limited accommodation facilities and the difficulties faced by certain African countries in securing admission of candidates to them are among the questions to which urgent attention needs to be devoted.

52. The implementation of the future work programme of STPA calls for the active participation of all interested parties, African Governments, STPA centres and associate centres, national statistical training centres and units, bilateral and multilateral bodies as well as ECA and other interested national and multilateral institutions. A draft resolution on statistical trainee fellowships was adopted by the fourth meeting of Directors of the STPA centres. It appears in annex II to the report of the meeting.

53. The present session of the Joint Conference of African Planners, Statisticians and Demographers is invited:

(a) To approve, following consideration, the content of the report of the fourth meeting of Directors of centres participating in the Statistical Training Programme for Africa (STPA), held at Addis Ababa from 4 to 8 November 1985;

(b) To adopt, following consideration, the guide syllabuses for professional statistical training and to take follow-up measures to ensure that existing statistical training centres in Africa use these syllabuses as a reference framework for the revision of their teaching programmes; and

(c) To adopt, following consideration, the draft resolution proposed by the fourth meeting of Directors of STPA centres to the ECA Conference of Ministers.